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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/524,617	02/08/2005	Christoph Glingener	2001P09973WOUS	1478

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EXAMINER	
BELLO, AGUSTIN	
ART UNIT	**PAPER NUMBER**
2613	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/524,617	GLINGENER, CHRISTOPH	
	Examiner	Art Unit	
	Agustin Bello	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 February 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *11-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *11-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *2/8/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 11-X are rejected under 35 U.S.C. 103(a) as being unpatentable over Yee (U.S. Patent No. 7,146,103) in view of Hui (U.S. Patent No. 6,999,688).

Regarding claim 11, Yee teaches a method for transmitting a first and a second data signal in polarization multiplex in an optical transmission system, the method comprising: modulating at the transmitting end the first data signal onto a sideband of a first carrier signal (reference numeral 1660A in Figure 16) to generate a first sideband modulated signal; modulating at the transmitting end the second data signal onto a sideband of a second carrier signal (reference numeral 1660B in Figure 16) to generate a second sideband modulated signal; orthogonally polarizing the first and the second sideband modulated signals to each other (as noted in Figure 16); combining the first and the second sideband modulated signals into a optical multiplex signal (reference numeral 1614 in Figure 16); transmitting the optical multiplex signal; feeding at the receiving end the optical multiplex signal via a polarization control element (reference numeral 139 in Figure 1) to a polarization splitter (reference numeral 1633 in Figure 16) which separates out the optical multiplexed signal which was transmitted into the first and second modulated signals; converting the first sideband modulated signal to a first electrical signal (reference numeral 1630A in Figure 16) and/or converting the second sideband modulated

signal to a second electrical signal; analyzing the first and/or the second electrical signal (reference numeral 180, 190 in Figure 1). Yee differs from the claimed invention in that Yee fails to specifically teach that dependent on the analyzing result, deriving at least one control signal for the purpose of controlling the polarization control element. However, Hui teaches that this concept is well known in the art (reference numeral 428 in Figure 4). One skilled in the art would have been motivated to analyze the result and derive at least one control signal for the purpose of controlling the polarization control element in order to indicate the two principal states of polarization (column 6 lines 1-5). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to analyze the result and derive at least one control signal for the purpose of controlling the polarization control element.

Regarding claim 12, Yee teaches the method according to Claim 11, wherein the sideband modulation is effected using carrier signals which have the same frequency (as noted in Figure 1).

Regarding claim 13, Yee teaches the method according to Claim 11, wherein the sideband modulation is effected using carrier signals which differ by a differential frequency (Δf) such that the spectra of the first and the second sideband modulated signals overlap, by which means the transmission bandwidth is reduced (as noted by Δf in Figure 1).

Regarding claim 14, Yee teaches the method according to Claim 13, wherein the differential frequency (Δf) is greater than one Gigahertz (column 24 lines 30-57).

Regarding claims 15, 16, Yee teaches the method according to Claim 12, wherein the sideband modulation is a single sideband modulation (as noted in the title and abstract) or a vestigial sideband modulation.

Regarding claim 17, Yee teaches the method according to Claim 13, wherein for a second carrier signal which differs from the first carrier signal by a differential frequency (Δf) the spectral component of the first and/or the second electrical signal is determined at the differential frequency (Δf) for the purpose of analyzing the first and/or the second electrical signal (inherent in the recovery of the signal).

Regarding claim 18, Yee teaches the method according to Claim 17, wherein the amplitude of the first and/or the second electrical signal is controlled to a minimum at the differential frequency (Δf) (inherent in the single sideband discussed throughout).

Regarding claims 19-23, the combination of references and Hui in particular teaches the method according to Claim 11, wherein the first or second sideband modulated signal is delayed at the transmitting end for the purpose of decorrelation.(reference numeral 112 in Figure 1).

Regarding claims 24-27, Yee teaches the method according to Claim 11, wherein for the purpose of distinguishing the first and second electrical signals, at least one pilot tone signal (reference numeral f_p in Figure 10) is superimposed at the transmitting end on the first and/or the second carrier signal or the sideband modulated signal.

Regarding claim 28 and 29, the combination of references differs from the claimed invention in that it fails to specifically teach that the purpose of distinguishing the first and second electrical signals the first and second data signals are transmitted at different bit transmission rates or data formats. However, the use of different bit rates or data formats is well known in the art and Official Notice is given to that effect. One skilled in the art would have been motivated to employ different data rates or different data formats in order to allow the identification of different data groups.

Regarding claim 30, Yee teaches that the optical transmission system is operating in wavelength multiplex mode (reference numeral 2700 in Figure 27).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Agustin Bello whose telephone number is (571) 272-3026. The examiner can normally be reached on M-F 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Agustin Bello
Primary Examiner
Art Unit 2613